

Application/Control Number: 10/091,689  
Art Unit: 2654

Docket No.:2001-0105

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A method of dynamic re-configurable speech recognition comprising:

repeatedly determining parameters of a background model and a transducer model for based on sampled information collected at a periodic time interval during a received voice request;

determining parameters of a transducer model;

determining a speech recognition model based on at least one of the background model ~~and~~ or the transducer model;

re-scoring automatic speech recognition using the speech recognition model comprising ~~the steps of:~~

generating word lattices representative of speech utterances in the received voice request~~[[;]]~~,

concatenating the word lattices into a single concatenated lattice~~[[;]]~~,

applying at least one language model to the single concatenated lattice in order to determine word lattice inter-relationships; ~~and~~

determining information in the received voice request based on the re-scored results of the speech recognition model; and

adjusting the periodic time interval based, at least in part, on determined changes in the sampled information.

2. (Currently Amended) The method of claim 1, further comprising ~~the steps of:~~  
~~determining at least one sample period;~~

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~~determining at least one of a new background model and a new transducer model based on the at least one sample period; and~~  
generating a confidence score after applying the ~~at least one~~ speech recognition model to determine whether the generated word lattices are acceptable.

3. (Original) The method of claim 2, wherein:

the parameters of the background model are determined based on a first sample period;

the parameters of the transducer model are determined based on a second sample period; and

the confidence score is compared to a predetermined value in order to determine whether to perform the automatic speech recognition process again.

4. (Currently Amended) The method of claim 2, further comprising the steps of:

saving at least one of the parameters of the background model and the parameters of the transducer model; and

determining the adapted speech recognition model based on ~~the at least one sample period and~~ at least one of the background model ~~and~~ or the transducer model.

5. (Currently Amended) A system for dynamic re-configurable speech recognition comprising:

a background model estimation circuit for repeatedly determining a background model ~~of at a periodic time interval during~~ a voice request based, at least in part, on estimated background parameters based on collected sampled information and user information;

a transducer model estimation circuit for determining a transducer model of the voice request based, at least in part, on estimated transducer parameters ~~and user information~~;

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a background model adaptation circuit and a transducer model adaptation circuit for determining an adapted speech recognition model based on a speech recognition model and at least one of the background model ~~and~~ or the transducer model;

a lattice concatenation circuit that concatenates at least two speech lattices based on speech utterances in the received voice request into a single lattice; and

a controller that applies at least one language model to the single concatenated lattice to determine relationships between the lattices, wherein

the controller is adapted to adjust the periodic time interval based, at least in part, on changes in the collected sampled information.

6. (Currently Amended) The system of claim 5, wherein the controller ~~determines at least one sample period and based on the at least one sample period activates at least one of the background model estimation circuit and the transducer model estimation circuit and where the controller generates a confidence score after applying the at least one speech recognition model to determine whether the generated lattices are acceptable.~~

7. (Currently Amended) The system of claim 6, wherein,  
~~the background model is determined based on a first sample period;~~  
~~the transducer model is determined based on a second sample period; and~~  
the controller is configured to compare ~~compares~~ the confidence score to a predetermined value ~~in order to determine whether to repeat the automatic speech recognition process, and~~

the controller is further configured to repeat automatic speech recognition of the voice request based, at least in part, on the comparing.

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8. (Currently Amended) The system of claim 6, wherein the controller saves at least one of the background model ~~and~~ or the transducer model into storage[[;]], and wherein the adapted speech recognition model is based on ~~the at least one sample period and~~ at least one of the background model ~~and~~ or the transducer model.

9. (Currently Amended) A carrier wave encoded to transmit a control program usable for dynamic re-configurable speech recognition to a device for executing the control program, the control program comprising:

instructions for determining parameters of a background model ~~of~~ at a periodic time during a received voice request;

instructions for determining parameters of a transducer model;

instructions for determining an adapted speech recognition model for a speech recognition model based on at least one of the background model ~~and~~ or the transducer model;

instructions for re-scoring the results of the automatic speech recognition using the adapted speech recognition model comprising:

instructions for generating lattices for speech utterances in the received voice request[;],

instructions for concatenating the lattices into a single concatenated lattice[;],

and

instructions for applying at least one language model to the single

concatenated lattice in order to determine relationships between the lattices; ~~and~~

instructions for determining information in the received voice request based on the adapted speech recognition model and the re-scored results of the adapted speech recognition model; and

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instructions for adjusting the periodic time based, at least in part, on determined changes in sampled noise information.

10. (Currently Amended) The carrier wave of claim 9, wherein the control program further comprises:

~~instructions for determining at least one sample period; and~~  
instructions for periodically ~~determining at least one of a new background model and~~  
a new transducer model ~~based on the at least one sample period.~~

11. (Currently Amended) The carrier wave of claim 10, wherein,  
the background model is determined based on ~~the~~ a first sample period[;], and the transducer model is determined based on a second sample period.

12. (Currently Amended) The carrier wave of claim 10, further comprising:  
instructions for saving at least one of the background model ~~and~~ or the transducer model; and  
instructions for determining the adapted speech recognition model based on ~~the at least one sample period and~~ at least one of the background model ~~and~~ or the transducer model.

13. (Currently Amended) A computer readable storage medium comprising:  
computer-readable program code usable to program a computer to perform a method for dynamic re-configurable speech recognition, the method comprising:  
determining parameters of a background model at a periodic time during a voice request;

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~~and determining parameters of a transducer model for a received voice~~  
~~request;~~  
determining a speech recognition model based on at least one of the  
background model ~~and or~~ the transducer model;  
re-scoring automatic speech recognition using the speech recognition model,  
comprising ~~the steps of:~~  
generating word lattices representative of speech utterances in the  
received voice request[;],  
concatenating the word lattices into a single concatenated lattice[;],  
applying at least one language model to the single concatenated lattice  
in order to determine word lattice inter-relationships; ~~and~~  
determining information in the received voice request based on the rescored  
results of the speech recognition model; ~~and~~  
adjusting the periodic time based, at least in part, on determined changes in  
sampled noise information.

14. (Currently Amended) A method of dynamic re-configurable speech recognition  
comprising:

repeatedly determining parameters of a background model based, at least in part, on  
first sampled information collected at first periodic time intervals during a received voice  
request;

repeatedly determining parameters of ~~and~~ a transducer model based, at least in part,  
on second sampled information collected at second periodic time intervals during ~~for~~ a  
received voice request;

determining a speech recognition model based on at least one of the background  
model ~~and or~~ the transducer model;

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re-scoring automatic speech recognition using the speech recognition model,  
comprising ~~the steps of~~:

- generating word lattices representative of speech utterances in the received voice request[;],
- concatenating the word lattices into a single concatenated lattice[;], and
- applying at least one language model to the single concatenated lattice in order to determine word lattice inter-relationships; and
- determining information in the received voice request based on the rescored results of the speech recognition model.

15. (New) The method of claim 1, further comprising:  
repeatedly determining the parameters of the transducer model.
16. (New) The system of claim 5, wherein the transducer model estimation circuit is configured to repeatedly determine the transducer model at the periodic time interval.
17. (New) The computer readable storage medium of claim 13, wherein the method further comprises:  
repeatedly determining parameters of the transducer model at a periodic time.
18. (New) The method of claim 14, further comprising:  
adjusting a length of the first periodic time intervals based, at least in part, on the collected first sampled information.

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19. (New) The method of claim 14, further comprising:
- adjusting a length of the first periodic time intervals based, at least in part, on a frequency or a magnitude of determined changes in successively sampled ones of the first sampled information.
20. (New) The method of claim 14, further comprising:
- generating a confidence score after applying the speech recognition model to determine whether the generated word lattices are acceptable;
- comparing the confidence score to a predetermined value; and
- repeating automatic speech recognition of the received voice request based, at least in part, on a result of the comparing of the confidence score with the predetermined value.